This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously amended) An isolated nucleic acid encoding a polypeptide comprising a subunit of a cation channel, the polypeptide:

(i) forming, with at least one cyclic nucleotide gated cation channel (CNG) alpha subunit, a cation channel having the characteristic of cyclic nucleotide-gating; and

(ii) comprising an amino acid sequence having at least 95% sequence identity to SEQ ID NO:1.

2. (Original) The nucleic acid of claim **1**, wherein the nucleic acid encodes a polypeptide comprising an amino acid sequence of SEQ ID NO:1.

3. (Original) The nucleic acid of claim **1**, wherein the nucleic acid comprises a nucleotide sequence having at least 90% sequence identity to SEQ ID NO:2 or SEQ ID NO:3.

4. (Original) The nucleic acid of claim **3**, wherein the nucleic acid comprises a nucleotide sequence of SEQ ID NO:2 or SEQ ID NO:3.

5-6. (Canceled)

7. (Currently amended) An isolated nucleic acid encoding a cyclic nucleotide gated cation channel (CNG) 2B polypeptide, wherein the complement of the nucleic acid specifically hybridizing under stringent conditions to a nucleic acid comprising a nucleotide sequence of SEQ ID NO:2 or SEQ ID NO:3, or to a nucleic acid encoding a polypeptide comprising an amino acid sequence of SEQ ID NO:1, wherein said stringent conditions comprise incubation in 50% formamide, 5 x SSC, and 1% SDS at 42°C, or incubation in 5 x SSC and 1% SDS at 65°C with a wash in 0.2 x SSC and 0.1% SDS at 65°C.

8. (Currently amended) An isolated nucleic acid encoding a cyclic nucleotide gated cation channel (CNG) 2B polypeptide, the nucleic acid comprising a nucleotide sequence ~~having at~~

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~~least 90% sequence identity to~~ of SEQ ID NO:2 or SEQ ID NO:3, or encoding a polypeptide comprising an amino acid sequence of SEQ ID NO:1.

9-18. (Canceled)

19. (Currently amended) An expression vector comprising the nucleic acid of claim **1** or claim **7**.

20. (Original) A host cell transfected with the vector of claim **19**.

21-40. (Canceled)